Original Article

A retrospective non-comparative analysis of the quality of care for osteoarthritis at the general out-patient department of Jos University Teaching Hospital, Nigeria

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Abstract

Background: Osteoarthritis is a common condition in primary care and is often associated with disability and limitation of function requiring holistic care. **Aim:** The aim of this audit was to assess the quality of care provided by family physicians in the management of osteoarthritis at the General Out-patient Department (GOPD) of Jos University Teaching Hospital (JUTH) as well as ascertain if such care was in line with evidence-based medicine. **Methods:** This was a retrospective noncomparative study. The recommendations of the Nigerian Standard Treatment Guidelines 2008 and the National Institute for Health and Care Excellence 2014 guidelines were used to form standard targets for each of the structural, process and outcome components of the care process. Each of the consultation rooms was inspected for the structure components of the care process. For the process and outcome components of care, the medical records of all patients being managed for osteoarthritis at the GOPD of JUTH over a 1-year period were retrieved and studied. **Results:** For one aspect of the structural component (i.e. availability of weighing scale for each consultation room), 80% of the standard target was met which was below the standard target of 100%. The highest performance under the process component was for the documentation of risk associated with the use of nonsteroidal anti-inflammatory drugs (NSAIDs) and documentation for NSAID/cyclooxygenase-2 inhibitors use with a gastro-protective agent. For both of these, 22.4% of the standard target was met; less than the standard target of 100% and 80% respectively. None of the standard targets for the outcome component were met. **Conclusion:** The quality of care for patients with osteoarthritis in this practice setting was sub-optimal. More can be done by family physicians with regards provision of comprehensive care for patients suffering from osteoarthritis.

Keywords: Audit, family physicians, Nigeria, osteoarthritis, quality of care

Introduction

Osteoarthritis refers to a clinical syndrome of joint pain accompanied by varying degrees of functional limitation and reduced quality of life.[1] Pathologically, it is characterized by localized loss of cartilage, remodeling of adjacent bone and associated inflammation, which is manifested clinically as persistent joint pain that is worse with use.[1] This has been observed, especially in people aged 45 years and above in western societies and 40 years and above in Nigeria.[1-3] They may also have morning stiffness lasting no more than half an hour and may not necessarily require radiography for the diagnosis.[1,2]

Access this article online

Quick Response Code:

Website: www.jfmpc.com

DOI: 10.4103/2249-4863.154648

In a Nigerian study, osteoarthritis was a common diagnosis in 26.8% of elderly patients attending the Out-patients Department of University College Hospital, Ibadan, Nigeria and accounted for a significant negative impact on their social and occupational functioning.[4] Another study also done in Ibadan, Nigeria, also suggested that the economic cost of osteoarthritis is high relative to the participants' income.[5]

Disability and increasing disease prevalence are responsible for making osteoarthritis a major public health problem, especially among the ageing population.[6,7] Primary care for osteoarthritis consists of patient education, exercise therapy, drug therapy, management of obesity and metabolic syndrome, assessment of pain control, function and co-ordination of care with other specialists.[3,8] This holistic approach to management is recommended as the ideal.[8] However, practice patterns do vary,

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and the usual clinical management is often restricted to the use of analgesic and/or anti-inflammatory drugs while waiting for the eventual referral for total joint replacement.[6] Recent doubts about the safety of several commonly prescribed osteoarthritis medications have served to highlight deficiencies in the usual approach to management, necessitating a holistic approach which has been shown to improve pain and functional outcome in patients with osteoarthritis.[1,2,6,8,9]

Studies which looked at the quality of primary care for osteoarthritis amongst elderly patients in United States and the United Kingdom found out that the majority of patients received sub-optimal care.[10,11] Since similar studies are lacking for this practice setting and considering the prevalence and disability associated with osteoarthritis, it was therefore imperative that a clinical audit be done at the General Out-patient Department (GOPD) of the Jos University Teaching Hospital (JUTH).

Aims and objectives

This study was aimed at evaluating the quality of care provided by family physicians in the management of osteoarthritis at the GOPD of JUTH as well as assess if such care was in line with evidence based medicine.

Methods

Jos is the capital of Plateau state in North-Central Nigeria with a population of 3.2 million.[12] Jos University Teaching Hospital (JUTH) is a tertiary health facility but also renders secondary and primary care services. Family physicians, family physician trainees and medical officers are involved in providing care to patients with osteoarthritis at the GOPD of JUTH. The study population comprised adult patients aged 40 years and above that were managed for primary osteoarthritis at the GOPD of JUTH, within the year under review, dating from May 2013 to April 2014.

This was a retrospective noncomparative study that was carried out by the authors who are also physicians at the Department of Family Medicine, JUTH. This audit was done according to the 1966 Donabedian proposal that health-care quality be measured by considering the structure, process and outcomes component of the care process.[9] The recommendations of the Nigerian Standard Treatment Guidelines (NSTG) 2008 and the National Institute for Health and Care Excellence (NICE) 2014 guidelines[1,3] were used to form standard targets for each of the structural, process and outcome components of the care process. Each of the consultation rooms was inspected for the structure components of the care process. For the process and outcome components of care, the medical records of all patients being managed for osteoarthritis at the GOPD of JUTH during the period under review, were retrieved and studied. Ethical clearance was sought and received from the Ethical Review Committee of the JUTH, Jos, Plateau State, Nigeria.

Inclusion criteria

Records of adult patients, aged 40 years and above with primary osteoarthritis. The choice for this age bracket was based on the NSTG 2008 for osteoarthritis.[3]

- Records that had a working clinical diagnosis of osteoarthritis i.e., were 40 years or over and had activity-related joint pain and had either no morning joint-related stiffness or morning stiffness that lasted no longer than 30 min[1,3]
- Records of osteoarthritis patients that attended the out-patient clinic more than once during the period under review
- Records of patients with osteoarthritis of the knee, hip and hands since these have been observed to be the most commonly affected areas.[7]

Exclusion criteria

- Records of patients with osteoarthritis of other parts of the body, for instance, spine and shoulder. Pain in these sites is usually from other causes with different management protocols[1]
- Records of patients with secondary osteoarthritis (e.g., trauma)
- Records of patients with osteoarthritis associated with childhood illness, e.g., sickle cell disease
- Records of patients with joint pain associated with inflammatory and/or metabolic causes, e.g., septic arthritis, gouty arthritis, rheumatoid arthritis, bone malignancy, etc
- Records of patients who had surgical intervention for osteoarthritis since their pain may result from implants.

Results

A total of 102 patients with osteoarthritis were documented as having received treatment for the period under review. Only 76 patient records were retrieved as the remaining could not be found. Out of the 76 records that were eventually retrieved, 58 patient records met the inclusion criteria. The remaining 18 patients were excluded for the following reasons: Six were below the age of 40 years, four had secondary causes of osteoarthritis and eight were patient records of those who had only one clinical visit. Data were collated and analyzed using Microsoft Excel.

The median age (standard deviation) for the patients was 56.5 (10.7) years and females were the predominant gender who sought care for osteoarthritis during the review period. The largest number of patients (24 out of 58; 43.1%) who sought care for osteoarthritis were of the age group 40-50 years.

For the structure component of the audit, 16 out of the 20 consulting rooms had a weighing scale. This reflects 80% of the target standard. The other three structure components (copies of osteoarthritis information leaflets, treatment guidelines and copies of pain, stiffness and functional assessment tools) were not available in each of the consulting rooms.

For the process component of the audit, only eight out of the 58 (13.8%) patient records included in the audit had evidence to suggest that the patients were informed about osteoarthritis. This same proportion also had a management plan that included exercise and/or physiotherapy. There was no documentation for abdominal circumference. Details of the process component of the audit are provided in Table 1.

For the outcome component of the audit, none had documentation on patient's adherence to recommendations on exercise, physiotherapy or nutrition. Pain and functional outcomes during follow-up visits were also not documented.

The above findings were presented during a departmental academic meeting at the GOPD of JUTH. The physicians accepted the report of the audit but also observed that holistic management of osteoarthritis as recommended by the guidelines required more consultation time. It was often easier for them to focus on providing a prescription at the busy out-patient clinic than it was to provide holistic care for each patient.

In addition, inter-professional rivalry in the health sector and low awareness by physicians of the services being offered by other members of the health team, may have also hindered integrated care for osteoarthritis in this practice setting.

Table 1: A comparison of actual clinical performance with target standards for items captured under the process component of the clinical audit

Criteria	Target standard %	*n*	Actual performance (%)	Target standard met
Any documentation informing patients about osteoarthritis	100	58	8 (13.8)	No
Any documentation on exercise intervention/ referral to physiotherapist for exercise program*	100	58	8 (13.8)	No
Any documentation on nutritional status (BMI)#	100	58	9 (15.5)	No
Any documentation on nutritional intervention when BMI >25 kg/m^2*	100	58	7 (12.1)	No
Any documentation on pain status#	100	58	0 (0.0)	No
Any documentation on functional status#	100	58	0 (0.0)	No
Documentation on acetaminophen or topical NSAID use as first line pharmacologic agents*	100	58	9 (15.5)	No
Any documentation assessing NSAID risk co-morbidities#	100	9	2 (22.2)	No
Documentation of NSAID/ COX-2 inhibitors use with a gastro-protective agents#	80	9	2 (22.2)	No

n: Number of patient records audited. The highest performance indicator was for documentation on the use of acetaminophen or topical NSAIDs as first line agents. This fell below the target standard of 100%. *Grade A recommendation or level I evidence, #Items included in NICE guidelines as part of holistic care. BMI: Body mass index, NSAID: Nonsteroidal anti-inflammatory drug, NICE: National institute for health and care excellence, COX-2: Cyclooxygenase-2

Discussion

The median age (standard deviation) of the patients was 55.5 (10.7) years. This is lower than what was obtained in a similar study in the United States (US) where a median age of 71 years was obtained. The difference in methodology may have accounted for this. While 55 years and above was the inclusion criteria for the US study,[10] 40 years and above was chosen for this study in line with the Nigerian guidelines.[3] This may also reflect an earlier manifestation of degenerative changes in this study population compared to the US. Also in this study, females were in the majority compared to males. This was similar to findings from a similar study in the US where more female participants than males were observed.[10]

This is the first clinical audit done for the management of osteoarthritis at the GOPD of JUTH, which showed sub-optimal care for such patients. This is similar to the conclusion from similar studies conducted in the United States and the United Kingdom, which found that the majority of patients received sub-optimal care.[10,11] Interestingly, a cross-sectional study done in the UK revealed that a majority of general practioners felt that osteoarthritis should not be added to the quality and outcomes framework domain.[13] The findings in this study may well be an indication of family physicians attitude toward the management of osteoarthritis.

The area of strength for the management of osteoarthritis at the GOPD of JUTH was observed in one aspect of the structural component of care, that is, availability of weighing scales. The weakest point was in documenting outcomes of treatment. This is somewhat similar to the UK study, which observed weaknesses in physicians' assessment of treatment outcomes (with actual performance ranging from 27% to 43% of the accepted standards).[11] These however differed from results of a similar study in the US where actual performance was higher for the outcomes component (i.e. documentation of pain and function scores) with a mixture of high and low pass rates for the process component of care.[10]

Various factors were identified for the sub-optimal care observed in this audit including: deficient structure components of osteoarthritis management (e.g. nonavailability of copies of evidence-based treatment guidelines for osteoarthritis in the consultation rooms, objective pain and physical function tools for osteoarthritis were also absent), deficient process and outcome components especially with regards assessment for nutritional status, nutritional and exercise interventions and adherence during these interventions. Considering that obesity and metabolic syndrome have been implicated as etiological factors for osteoarthritis,[14] medical records failed to show that measurement of abdominal girth and assessment for metabolic syndrome received appropriate attention during consultations at the GOPD of JUTH.

Even though the perspectives of patients were not sought as part of this audit, it is not out of place to infer that patient

satisfaction and patient care were affected by the failure to counsel patients on the diagnosis, absence of information leaflets for patients, failure to assess for and initiate management of obesity and metabolic syndrome, failure to coordinate care with other members of the health team as well as failure to assess pain control and functionality outcomes as suggested by this audit. Perhaps customizing the WOMAC questionnaires for a busy out-patient clinic may encourage family physicians in this study area to individualize care better.

The following limitations were considered in this audit: The possibility that not everything done for patients with osteoarthritis was documented, the possibility that not all patients with diagnosis of osteoarthritis were captured in the GOPD register and the cases of "missing folders" highlighting the need for a more efficient method of keeping records, e.g. electronic health records.

Despite these limitations, the approach to this audit (i.e. choosing to focus on the structural, process and outcome components of the care process) is consistent with the principles of family medicine (i.e. first contact, continuous, comprehensive and coordinated care). The observed deficiencies in the care process as observed in this audit, highlights the need to embrace holistic care in the management osteoarthritis by family physicians.

Acknowledgments

We appreciate the Heads of Department of Family Medicine and the Department of Medical Records, Jos University Teaching Hospital: Dr. JKA Madaki and Mr. Jimi Shemfe for their support in ensuring this audit was carried out. We also appreciate Dr. Annie Botes and Dr. Christopher Abimiku for their insightful suggestions that made this audit possible.

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How to cite this article: Osajie FE, Yakubu K. A retrospective non-comparative analysis of the quality of care for osteoarthritis at the general out-patient department of Jos University Teaching Hospital, Nigeria. J Fam Med Primary Care 2015;4:217-20.

Source of Support: Nil. **Conflict of Interest:** None declared.